

In the future, BPL technology may prove to be a workable conduit for high-speed communications and Internet access. Because of the ubiquity of electric lines, BPL potentially holds the promise of serving consumers previously unable to subscribe to broadband. However, as demonstrated by the record in this proceeding, BPL is very much in its infancy, so it is difficult, if not impossible, to draw any conclusions on the viability of the technology at this stage. Indeed, the Commission recognized as much in its NOI, observing “that BPL technology

is at an early stage of development and its provisioning methods are evolving,” and noting that it was seeking comments so as to “adequately address all the issues raised by this technology.”<sup>1</sup>

While the Commission should endeavor to avoid unnecessarily delaying the deployment of emerging technologies, it should nevertheless not hastily facilitate the rollout of largely unproven technologies at the expense of existing services. It is simply too early to tell whether BPL will be a viable technology and whether BPL will be able to compete economically with existing broadband services.

The Joint Commenters support the Commission in its efforts to foster new technology and encourage the Commission to work with industry groups to facilitate resolution of several outstanding issues relating to BPL. However, we hope that the Commission recognizes that BPL is not sufficiently mature to justify further relaxing regulation of broadband facilities at this time.

## **II. BPL IS A NASCENT TECHNOLOGY, REQUIRING FURTHER ANALYSIS AND TESTING BEFORE ITS VIABILITY CAN BE ASSESSED**

Most, if not all, commenters recognize that BPL is a nascent technology<sup>2</sup> and that a number of issues still need to be addressed. As several commenters point out, aside from limited demonstrations from a few commercial BPL providers, there is little hard evidence that indicates that BPL service is a competitive alternative to other, proven technologies that will not cause interference to existing applications.<sup>3</sup> The Commission should take the necessary steps to facilitate further public testing of BPL. In addition, the Commission should encourage the development of industry standards for BPL.

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<sup>1</sup> NOI, ¶ 13.

<sup>2</sup> For example, Progress Energy, Inc. notes that BPL is in its “infancy.” Comments of Progress Energy, Inc. at 8.

<sup>3</sup> Comments of The Public Safety Wireless Network at 5.

### **A. Interference with Wireless Systems**

As noted in the comments of several parties, BPL has the potential both to interfere with, and be subject to interference from, existing spectrum users in the Medium Frequency (“MF”) band (0.3-3.0 MHz), the High Frequency (“HF”) band (3-30 MHz) and the lower Very High Frequency (“VHF”) band (30-300 MHz).<sup>4</sup> Each interference condition can cause service interruptions, thus compromising the reliability of a BPL network. Because BPL systems operate as an unlicensed service under Part 15 rules, BPL systems must accept interference from other licensed spectrum users,<sup>5</sup> yet run the risk of having to cease their operations should they harmfully interfere with other authorized spectrum users.<sup>6</sup> As a consequence, scores of BPL subscribers could potentially experience service interruptions. The complex issues associated with interference between BPL and other wireless users, especially as they relate to the ability of BPL to scale to large networks, require detailed study by the Commission.

### **B. Interference With Existing Wireline Telecommunications Networks**

The Commission should also pay special attention to the concerns raised by several commenters that BPL could potentially introduce harmful interference into telecommunications, telephony, and cable TV wiring in that it is likely that these transmission lines will be in close proximity to the power lines on neighborhood distribution poles and in-home wiring.<sup>7</sup> The FCC

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<sup>4</sup> For example, ARRL notes that HF amateur radio operations could be vulnerable to interference from BPL systems. Comments of ARRL at 7; NTIA highlights that continued operation of BPL systems on an experimental basis will allow many issues to be addressed, but notes that at present time, there is a “lack of measurements and analyses showing that any resulting interference to allocated services would be at acceptable levels.” See Letter from Frederick R. Wentland, Associate Administrator, Office of Spectrum Management, NTIA, to Mr. Edmond J. Thomas, Chief, OET, FCC at 1 (dated July 1, 2003)(“NTIA Letter”).

<sup>5</sup> 47 C.F.R. § 15.5(b).

<sup>6</sup> 47 C.F.R. § 15.5(c).

<sup>7</sup> Sprint observes that the close proximity of BPL equipment to telecommunications facilities on the same pole or underground facility could be an issue. Comments of Sprint at 3. Verizon further explains that “where telecommunications equipment is co-located on the same utility pole as BPL equipment or where telecommunications cables run in parallel with power line cables for some distance – there is a strong potential for interference with voice or DSL service.” Comments of Verizon at 5.

should investigate the interference effects of BPL to ensure compatibility with existing wireline services.

### **C. Testing and Standards**

In order to facilitate resolution of the issues presented by BPL, the Commission and/or industry task forces working on this issue will need access to test data from the various field trials that have been conducted.

The Commission could establish advisory group of government and industry technical experts to examine results of testing. These processes should involve all interested parties, not just BPL proponents. After the technology has been studied, tested, and documented, the Commission could revisit the impact on existing services and possible Part 15 modifications that may be needed.

In addition, the Commission should encourage the development of industry standards for BPL.<sup>8</sup> Currently, the industry can point to no published standards for BPL systems.<sup>9</sup> Most of the commenters who advocate standards agree that the Commission should allow standards to be developed by a technical standards committee representing various interested parties.<sup>10</sup> The Joint Commenters agree with Verizon that the standards setting process should include the development of a measurement and assessment program to gauge change in the electromagnetic environment caused by BPL and to assess the effect of those changes on telecommunications.<sup>11</sup>

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<sup>8</sup> See Comments of Sprint at 5-6; Comments of Verizon at 6; Comments of Progress Energy, Inc. at 5, 8; Comments of Ameren Energy Communications, Inc. at 15-16; NTIA Letter at 1-2.

<sup>9</sup> See Comments of Progress Energy, Inc at 5.

<sup>10</sup> See, e.g., Comments of Verizon at 6; Comments of Ameren Energy Communications, Inc. at 15.

<sup>11</sup> Comments of Verizon at 7.

The Joint Commenters agree that the standards setting process should be open to all interested parties, including, as Verizon recommends, power companies, telecommunications providers, cable TV operators, BPL manufacturers, amateur radio operators, among other impacted parties.<sup>12</sup> The Joint Commenters also support Sprint's recommendation that the Commission also involve existing standards bodies such as ATIS and IEEE for testing and establishing standards.<sup>13</sup>

### **III. IT IS PREMATURE TO DRAW ANY CONCLUSIONS THAT BPL IS SOMEHOW THE NEXT BROADBAND CONDUIT INTO THE HOME**

Contrary to the assertions of Verizon and Qwest, the mere possibility that BPL could be a viable technology does not mean that there is now a new broadband conduit into the residential market.<sup>14</sup> The RBOCs use this strained reasoning to advance their own interests and justify future relaxation of Commission regulation of broadband facilities. As the record in this proceeding unmistakably demonstrates, it is simply too early to pass judgment on the practicality and the impact of this technology.

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<sup>12</sup> Comments of Verizon at 6.

<sup>13</sup> Comments of Sprint at 5-6.

<sup>14</sup> See, e.g., Comments of Verizon at 1; Comments of Qwest at 2.

Sincerely,

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